

## **AMENDMENTS TO THE SPECIFICATION**

Please replace the title of the invention with the following title:

**ELECTRONIC BALLAST HAVING IMPROVED POWER FACTOR AND  
TOTAL HARMONIC DISTORTION.**

Please replace lines 1 – 20 of page 15 with the following paragraph:

The operation of the inverter 2110 will now be described in connection with Fig. 19. The inverter 2110 uses a fixed frequency,  $D(1-D)$  complementary duty cycle switching mode of operation, where  $0 \leq D \leq 1$ . This means that one, and only one, of the switching devices 2112, 924 is conducting at all times. In this discussion, the duty cycle  $D$  refers to the conduction time of the first switch 2112, and the complementary duty cycle  $1-D$  refers to the conduction time of the second switch 924. When switch 2112 (referred to in Fig. 19 as SW1) is conducting, then the output of the inverter 2110 is pulled upwardly toward the bus voltage. When the switching device 924 (referred to as SW2 in Fig. 19) is conducting, then the output of the inverter 2110 is pulled downwardly toward circuit common. Maximum output is achieved when the duty cycle  $D$  is equal to 0.5, that is, when the conduction times of the two switching devices 2112, 924 are equal. This occurs near the tails of each line voltage half-cycle, that is, near the line voltage zero crossings. The conduction times of the switching devices 2112, 924 are controlled by a control circuit 882 in response to the current flowing through the gas discharge lamps 2210, 2212. The operation of the control circuit is described in detail below. The result is that more current is drawn by the ballast near the peak of each line half-cycle, and less current is drawn near the zero crossings. A more nearly sinusoidal input current waveform is achieved, as shown in Fig. 19. This results in improved power factor and input line current THD.